

Automatic Programmable Melting Point Apparatus (21 CFR Part-11 Compliance)

Model: μ ThermoCal100 | Make: ANALAB | HSN Code: 90278990



Supplied with Melting Capillary One End Sealed (Pack of 100 Nos.), Boiling Tube, Sample Tapping Rod, Two Melting Standards 49°C and 238°C, Forceps, Power Cord, ANALABsafe software, USB Interface Cable, Operational & Instruction Manual with SOP, Calibration Test Certificate (Without Traceability Document) and Warranty Card.

Technical Specification:

Temperature Controller	: Microcontroller Based
Detection Principal of Melting Point	: Automatic by Silicon Photodiode
Heating Media	: By Aluminum Block
Temperature Range	: +5°C above ambient to 400°C
Temperature Accuracy	: A) 10°C above ambient to 100°C ± 0.2°C B) 101°C to 200°C ± 0.4°C C) 200°C to 400°C ± 0.5°C
Readability	: 0.1°C
Overheating Protection	: In-built - Set by user in method parameter
Heating Before EMP*	: Automatic heating depending upon temperature difference
Heating Rates	: 0.1 to 20.0°C/min (Increment of 0.1°C) - Adjustable
Maximum Heating Time	: Around 6 minutes from 50°C to 350°C
Maximum Cooling Time	: Around 6 minutes from 350°C to 50°C
Detection of Melting	: A) Melting Point B) Melting Range C) % Level of Melting Point between Melting Range
Type of Detection	: Auto / Manual (Color sample can be analysed by Manual detection.)
Melting Point Average Reading	: For three same sample
Melting Capillary Ports	: Three
Melting Channel	: Three different sample analysis of different temperature in single run
Detection of Boiling Point	: Manually by viewing in TFT Display
Boiling Tube	: One
Calibration	: Eight Calibration Standards (Six as per Pharmacopeia AND / OR Customer's known standards)
Method	: 40 methods for Melting sample, 10 for Boiling sample and 1 for unknown sample with View, Print & Delete facility.
Temperature Sensor	: Duplex PT-100, One for internal use and One for calibration purpose by external Source.
Glass Melting Capillary	: OD: 1.4 to 1.6mm ID: 1.0mm Length: 100mm One End Sealed
Sample Filling Height	: 3mm
Magnification	: 5x

- Recording of Melting Capillary** : **Camera with TFT Display for viewing and Recording of Melting Capillary in CAPillaryVIEW. Individual recording storage for each Capillary. (Last Analysis)**
- Display : 20 x 4 Line Alphanumeric Backlit LCD
- Keypad : Membrane waterproof polycarbonate soft touch keypad compliance to UL/ROHS
- Calibration Data Storage : Non-Volatile Memory which can store, print & view company name, standard name, standard MP, observed MP, Calibration date and time, last calibration date & time, calibration done by, calibration status, instrument ID, serial number, model number etc.
- Analysis Data Storage : **More than 1500** analysis data can be stored with corresponding calibration data, analysis date & time, record number, Batch number / ID, sample name, username, assigned method number, MP1 (**On set temperature**) & MP2 (**Clear temperature**) reading of all three reading, instrument ID, serial number, model number, make, etc. **Secondly**, analysis data can be print online.
- Searching of data : With record number, batch number/ID, date, date range and by scrolling.
- Report Formation** : **As per GLP Compliance**
- 21 CFR Part-11 Compliance** :
 - **In-built with system for ease of operation without PC.**
 - **2 Admin, 10 Reviewers, 40 Users & 1 Manufacturer with individual Login ID & Passcode.**
 - **Audit trail can store more than 5000 lines in instrument.**
 - **Audit trail includes action taken, date & time, action taken by whom.**
 - **Audit trail can be transfer to PC through ANALABsafe software and can print on 40 / 80 column dot matrix printer for record.**
 - **Admins can set up operation permission of each Users & Reviewers.**
 - **Strict Admins control to audit and monitor usage and access.**
 - **Audit trail record can be printed with Date, Date Range and by individual User's ID.**
 - **Once Audit trail transfer to the PC or Printer, system will delete Audit trail records and before final deletion, the system will give warning twice.**

- **Data integrity with database capability to store Analysis Data, Calibration Data, Calibration and Analysis Method, Audit trail and Passcode in instrument.**
- **No direct access to data from outside the instrument, thereby creating a closed system.**
- **Audit traceability to ensure that the device and results are appropriately handled.**
- **Auto User's logout after defined Logout time.**
- **Auto Users & Reviewers block when password is entered incorrectly 3 consecutive times.**

Printer Interface	: Centronics Parallel Port / Serial (RS-232 C) Port
Printer	: 40 / 80 Column Dot Matrix Printer (Printer must procure optionally)
PC Interface	: USB Type - B
PC Connectivity	: By USB Interface Cable with Driver, ANALABsafe software to transfer Analysis data in GLP format, Calibration data and Audit trail from Instrument to PC in non-editable format (Cannot be Deleted)
Power Supply	: 230VAC \pm 10%, 50 Hz, 150W

* EMP: Expected Melting Point

Optional

1. IQ/OQ/PQ/DQ Documents

- Note:**
- Please provide Customer's Name & Address prior to dispatch.
 - To perform onsite documentation, visit charge will be extra depending upon place of Installation.
 - Traceability documents along with installation report.
 - Standards / Chemicals / Buffers required to perform documents are in customer's scope.
 - We don't send documents by email.

2. Calibration Standard Kit for Melting Point Apparatus - (Sigma Aldrich Certified)

Consist of 06 Melting Standards as specified bellow, Melting Capillary (100 mm long) – 02 Nos., Boiling Tube – 02 Nos., Sample Tapping Rod, Forceps, Glass for Heating Block – 02 Nos., Glass for Camera – 02 Nos.

Melting Standards :

- | | |
|--------------------------------------|--------------------|
| a) Benzophenone - Melting Range | : 47 - 49 °C |
| b) Vanillin - Melting Range | : 81 - 83 °C |
| c) Benzoic Acid - Melting Range | : 121.5 - 123.5 °C |
| d) Sulfanilamide - Melting Range | : 164 - 167 °C |
| e) Caffeine - Melting Range | : 235 - 238 °C |
| f) Potassium Nitrate - Melting Range | : 334 – 336 °C |

Note:

Melting Range / Melting Point specified on standard bottle is based on the values of batch Number specified by manufacturer and their COA.

3. GMP Enclosure made up of Stainless Steel

- 40 / 80 Column dot matrix printer
- Keypad Screen Guard
- Traceability Documents

Available other Models of Melting / Boiling Point Apparatus

- Microcontroller Based Melting/Boiling Point Apparatus Model: ThermoCal - Resolution: 1.0°C & Temp.: 300°C with Silicon Oil
- Microcontroller Based Melting/Boiling Point Apparatus Model: μ ThermoCal10 Resolution: 0.1°C & Temp.: 300°C with Silicon Oil
- Programmable Melting/Boiling Point Apparatus Model: μ ThermoCal25 Resolution: 0.1°C & Temp.: 300°C with Silicon Oil & Printing Facility as per Non-GLP Format
- Automatic Programmable Melting Point Apparatus Model: μ ThermoCal25+ with Manual Boiling Point, Block Technology, Resolution: 0.1°C, Temp.: 350°C & Printing Facility as per Non-GLP Format
- Automatic Programmable Melting Point Apparatus Model: μ ThermoCal50 with Manual Boiling Point, Block Technology, Resolution: 0.1°C, Temp.: 350°C & Printing Facility as per GLP Format
- Automatic Programmable Melting Point Apparatus Model: μ ThermoCal100 with Manual Boiling Point, Block Technology, Resolution: 0.1°C, Temp.: 400°C, Printing Facility as per GLP Format & 21 CFR Part-11 Compliance

Product Range

- pH/mV/°C/ORP Analyzer
- Conductivity/TDS/Resistivity/Salinity/°C Analyzer
- Multiparameter Analyzer (pH/ORP/Conductivity/TDS/Resistivity/Salinity/°C)
- Karl Fischer Titrator
- Auto Titrator
- Automatic Melting Point Apparatus
- Flame Photometer
- Friability Test Apparatus
- Tablet Dis-integration Test Apparatus
- Tap Density Test Apparatus
- Tablet Hardness Tester
- Leak Test Apparatus
- Tablet Dissolution Test Apparatus
- Electromagnetic Sieve Shaker
- Ultrasonic Bath (Sonicator)
- Analytical Electronics Balance
- Halogen Based Moisture Analyzer
- Visible & UV-Vis. Spectrophotometer
- Nitrogen Gas Generator
- Zero Air Gas Generator
- Combination Nitrogen / Zero Air Gas Generator
- Air Drying Unit for TOC Analyzer
- Dew Point Apparatus
- Gas Handling & Purification System
- Laboratory Furniture & Fume Hood
- Exhaust Hood for AAS/ICP.

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